

PERSONAL DETAILS

Family name, First name: Knolle, Percy Alexander, MD
Date of birth: 29.10.1962
Nationality: German
Researcher unique identifier(s): ORCID: <https://orcid.org/0000-0003-2983-0414>
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• Education and key qualifications

1997 Board exam and approved Specialist in Internal Medicine
1991 – 1997 Clinical training as a Specialist in Internal Medicine and Hepatology
1988 – 1990 MD, German Cancer Research Center, University of Heidelberg, Germany
1982 – 1988 Study of Medicine, Universities in Frankfurt, Germany; Birmingham, UK, Geneva, Switzerland; Paris, France; Strasbourg, France. Grade '1.0' (highest distinction)

• Current position(s)

2023 – present Member of the Board of Directors, Center for Infection Prevention, TUM
2023 – present Head, *Center for Prevention of Infection Pathology and Pandemic Preparedness*, TUM (funded by the Bavarian Government)
2020 – 2023 Task Force COVID-19 vaccination centre, University Hospital München Rechts der Isar, TUM
2014 – present Founding Director of the Institute of Molecular Immunology, University Hospital München Rechts der Isar, Faculty of Medicine and Health, TUM, Germany
2014 – present Professor of Molecular Immunology, Faculty of Life Science, Research Campus Weihenstephan, TUM, Germany

• Previous position(s)

2002 – 2013 Founding Director of the Institute of Molecular Medicine and Experimental Immunology, University Hospital Bonn, Faculty of Medicine, University of Bonn, Germany
1997 – 2002 Research group leader, Center for Molecular Biology, Heidelberg Germany
1991 – 1997 Clinician scientist, 1st Department of Medicine, University Hospital Mainz
1990 – 1991 Postdoc with BASF Bioresearch Cambridge Massachusetts

RESEARCH ACHIEVEMENTS AND PEER RECOGNITION

I have published over **230 journal articles** since 1991 (>130 over the past 10 years) which received **>26.000 citations** (>11.000 citations over the last 5 years). My **h-index** is **85 (i10 index = 206)** based on [Google Scholar](#) (12 November 2023). I publish in the top Journals (*Nature*, *Nature Medicine*, *Science*, *Cancer Cell* and *Nature Immunology*), in the highest specialty journals of our field (*Hepatology*, *Gastroenterology*, *Gut*, *Journal of Hepatology*, *Journal of Immunology*, *European Journal of Immunology*, and non-specialty journals (*Journal of Experimental Medicine*, *Nature Communications*, *EMBO Journal*, *Cell Reports*). I have been invited to author a total of four reviews in the leading journals of the field of immunology and metabolism, *Nature Reviews Immunology* and *Nature Metabolism*.

Ten Representative Publications (Selection):

1. Wratil PR, Stern M, Priller A, ..., **Knolle PA***, Keppler OT*, Protzer U*. Three exposures to the spike protein of SARS-CoV-2 by either infection or vaccination elicit superior neutralizing immunity to all variants of concern. *Nature Medicine* 2022, 28: 496-503. doi: [10.1038/s41591-022-01715-4](https://doi.org/10.1038/s41591-022-01715-4)
2. Dudek M, Pfister D, Donakonda S, ..., Murray PJ, Heeren R, Zehn D, Bottcher JP, Heikenwalder M, **Knolle PA**. Auto-aggressive CXCR6(+) CD8 T cells cause liver immune pathology in NASH. *Nature* 2021, 592: 444-449. doi: [10.1038/s41586-021-03233-8](https://doi.org/10.1038/s41586-021-03233-8)
3. Pfister D, Nunez NG, Pinyol R..., Amit I, **Knolle PA**, Becher B, Llovet JM, Heikenwalder M. NASH limits anti-tumour surveillance in immunotherapy-treated HCC. *Nature* 2021, 592: 450-456. doi: [10.1038/s41586-021-03362-0](https://doi.org/10.1038/s41586-021-03362-0)

4. Baumann T, Dunkel A, Schmid C, ..., Dawid C, Hofmann T, **Knolle PA***, Höchst B*. Regulatory myeloid cells paralyze T cells through cell–cell transfer of the metabolite methylglyoxal. *Nature Immunology* 2020, 21: 555-566. doi: [10.1038/s41590-020-0666-9](https://doi.org/10.1038/s41590-020-0666-9)
5. Welz M, Eickhoff S, Abdullah Z, Trebicka J, Gartlan KH, Spicer JA, Demetris AJ, Akhlaghi H, Anton M, Manske K, Zehn D, Nieswandt B, Kurts C, Trapani JA, **Knolle PA***, Wohlleber D*, Kastenmuller W*. Perforin inhibition protects from lethal endothelial damage during fulminant viral hepatitis. *Nature Communications* 2018, 9: 4805. doi: [10.1038/s41467-018-07213-x](https://doi.org/10.1038/s41467-018-07213-x)
6. Beyer M, Abdullah Z, Hartmann P, **Knolle PA***, Schultze JL*. Tumor-necrosis factor impairs CD4(+) T cell-mediated immunological control in chronic viral infection. *Nature Immunology* 2016, 17: 593-603. doi: [10.1038/ni.3399](https://doi.org/10.1038/ni.3399)
7. Bottcher JP, Beyer M, Meissner F, Abdullah Z, Sander J, Hochst B, Eickhoff S, Rieckmann JC, Russo C, Bauer T, Flecken T, Giesen D, Engel D, Jung S, Busch DH, Protzer U, Thimme R, Mann M, Kurts C, Schultze JL, Kastenmuller W, **Knolle PA**. Functional classification of memory CD8(+) T cells by CX3CR1 expression. *Nature Communications* 2015, 6: 8306. doi: [10.1038/ncomms9306](https://doi.org/10.1038/ncomms9306)
8. Huang LR, Wohlleber D, Reisinger F, ..., Kubes P, Protzer U, Heikenwalder M, **Knolle PA**. Intrahepatic myeloid-cell aggregates enable local proliferation of CD8(+) T cells and successful immunotherapy against chronic viral liver infection. *Nature Immunology* 2013, 14: 574-583. doi: [10.1038/ni.2573](https://doi.org/10.1038/ni.2573)
9. Burgdorf S, Kautz A, Bohnert V, **Knolle PA**, Kurts C. Distinct pathways of antigen uptake and intracellular routing in CD4 and CD8 T cell activation. *Science* 2007, 316: 612-616. doi: [10.1126/science.1137971](https://doi.org/10.1126/science.1137971)
10. Limmer A, Ohl J, Kurts C, Ljunggren HG, Reiss Y, Groettrup M, Momburg F, Arnold B, **Knolle PA**. Efficient presentation of exogenous antigen by liver endothelial cells to CD8+ T cells results in antigen-specific T-cell tolerance. *Nature Medicine* 2000, 6: 1348-1354. doi: [10.1038/82161](https://doi.org/10.1038/82161)

Peer recognition

Fellowships and Awards

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|-------------|---|
| 2001 | Research Group Award by the Volkswagen Stiftung Germany, 1.5 Mio € support for research projects – awarded in recognition of outstanding research achievement |
| 1988 – 1994 | Fellowship from the German National Scholarship Foundation |

Invited presentations as plenary speaker (selection from the last 3 years)

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| 2024 | EASL Meeting, Italy |
| 2023 | French-German Immunology Meeting, Strasbourg |
| 2023 | HepDart Meeting Los Cabos, Mexico |
| 2023 | International Falk Meeting, Zurich, Switzerland |
| 2022 | EASL Meeting, Vienna, Austria |
| 2022 | International Twinsight Meeting, Würzburg, Germany |
| 2021 | AASLD Meeting, Washington, Maryland, USA |
| 2021 | ESMO Meeting, Geneva, Switzerland |
| 2021 | International Meeting Collaborative Research Center TRR57, Aachen, Germany |
| 2020 | Ringberg Meeting, Tegernsee, Germany |
| 2020 | NYAS Meeting, New York, USA |

Society and Board Memberships

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| 2026 | President-elect Annual Meeting for the German Society of Immunology |
| 2025 | President-elect Annual Meeting of the German Association for the Study of the Liver |
| 2022 – present | Scientific advisor (<i>ad hoc</i>), in Biotech and Industry (Roche, Gilead, Johnson & Johnson, Medigene, Astra Zeneca, Avexis, Freeline, Topas, Ethris) |
| 2020 – present | Study Section Immunology, Grant Review Board, German Research Foundation |
| 2019 – present | Chair of the Scientific Advisory Board, Helmholtz Center for Infection Research, Germany (an institution with 5 sites and > 1300 employees) |
| 2018 – present | Member of the Scientific Advisory Board, Center of Molecular Medicine, University of Cologne, Germany |

2015 – 2019	Member of the Scientific Advisory Board, Helmholtz Center for Infection Research, Germany
2003 – 2008	Founder of the Study Section Immunology for the German National Scholarship Foundation and responsible for the education of next-generation leaders in immunology/life science (from these students, five are now in leading academic positions)
2001 – present	Member of the European Association for the Study of the Liver
1997 – present	Member of the German Association for the Study of the Liver
1997 – present	Member of the German Immunology Society

ADDITIONAL INFORMATION

Career breaks, unconventional career paths and major life events

After having finished my studies of Medicine, I have pursued a full educational program to become a specialist in Internal Medicine and Hepatology. I decided in 1997 to move from curative medicine to basic and translational research. The deep insight into the clinical manifestations of diseases that I obtained during my clinical training is a main pillar of my translational research activity (>10 patents).

Other contributions to the research community

Meeting Organisation

for 2026	President-elect for the Annual Meeting for the German Society of Immunology with Prof. Dietmar Zehn
for 2025	President-elect for the Annual Meeting of the German Association for the Study of the Liver
2019	Munich School of Metabolism and Immunity, Young researcher training, in association with EASL
2017	Drug-Induced Liver Injury Symposium, International Meeting within the EU/EFPIA-funded MIP-DILI consortium, Munich, Germany
2014	Annual Meeting German Society of Immunology, Bonn, Germany (together with Prof. Christian Kurts and Prof. Gunther Hartmann)
2010	International Symposium Local Immune Responses, CRC 704, Bonn
2004 – 2007	Biannual Immunology Meetings, German National Scholarship Foundation, Cologne
2002	Summer School, German National Scholarship Foundation, St. Johann Austria

Institutional Responsibilities

2023 – present	Vice-speaker <i>Center for Infection, Immunity and Environmental Health</i> , School of Medicine and Health, TUM
2022 – present	Member of the Board of Directors, <i>Center for Integrative Infection Prevention</i> , Interdisciplinary Research Center, TUM (Interdisciplinary Research Center at TUM, responsible for funding through a competitive grant in a nation-wide competition – 60 Mio € funding)
2020 – present	Lead of the Immune Monitoring/WP lead in the EU-funded <i>TherVacB</i> consortium
2015 – present	Member of the Board, <i>Center for Preclinical Research</i> , School of Medicine and Health, TUM
2014 – present	Member of the TUM Appointment Board, responsible for the recruitment of >15 professors to the faculties of Medicine and Life Science, TUM, Germany
2012 – 2014	Cofounder and Member of the Board, Excellence Cluster <i>ImmunoSensation</i> , University of Bonn, Germany
2005 – 2012	Head of Steering Board, House of Experimental Therapy, Central Animal Facility, University of Bonn, Germany

2004 – 2010 Head of the intramural Funding Program for support of young scientists (*Bonfor*) at the Faculty of Medicine, University of Bonn (budget of 2,5 Mio €/year), Germany
2003 – 2012 Faculty appointment Board, for recruitment of 11 professors to the Medical Faculty, University of Bonn, Germany

Research Collaborations

In addition to interdisciplinary collaborations in the Munich area (@TUM: Prof. Zehn, Prof. Hayden Prof. Haller, Prof. Schnieke, Prof. Skerra, Prof. Küster, Prof. Rückert; @Helmholtz Munich: Prof. Theis, Prof. Zischka; @LMU: Prof. Keppler, Prof. Hölscher); *University of Bonn* (Prof. Kurts, Prof. Latz, Prof. Kolanus); *German Center for Neurodegeneration Bonn* (Prof. Schultze); *Charité Berlin* (Prof. Tacke); *University of Freiburg* (Prof. Thimme, Prof. Prinz); *University of Heidelberg* (Prof. Bartenschlager); *German Cancer Research Center Heidelberg* (Prof. Heikenwälder); *University of Hamburg* (Prof. Lohse, Prof. Altfeld); *Max Planck Institute of Biochemistry Munich* (Prof. Mann, Prof. Murray); *University of Bern* (Prof. Dufour); *University of Innsburg* (Prof. Tilg); *Swiss Federal Institute of Technology (ETH) Zurich* (Prof. Oxenius); *A-Star Institute Singapore* (Prof. Renia); *Duke University Singapore* (Prof. Bertoletti); *Kings College London* (Prof. Maini); *University of Pittsburg* (Prof. Thomson); *University of Washington* (Prof. Crispe); *Columbia University* (Prof. Schwabe); *University of Padua* (Prof. Ferrari); *University of Lyon* (Prof. Durantel); *Yale University* (Prof. Spiegel); *National Institutes of Health (NIH)* (Prof. Liang), *Walter and Eliza Hall Institute Melbourne* (Prof. Kallies); *University of Sidney* (Prof. Bertolino); working in close association with Biotech companies (Therawis Diagnostics; Ethris) and Industry (Roche, Astra Zeneca, Janssen, Medigene) on aspects of immune diagnostics in tissues and liver targeted immune therapies.

Mentoring of early career researchers

I have successfully trained early career researchers in my institute at the University of Bonn and more recently at my institute at TUM. Researchers started their independent careers in academia, in industry and in national funding agencies (DFG, BMBF, Helmholtz). I serve as a mentor at TUM for early career researchers.